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| 10/827,149 | 04/19/2004 | Yea-Yang Su | 24110-RA | 2717 |

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| EXAMINER |
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ZHENG, LOIS L

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| ART UNIT | PAPER NUMBER |
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1793

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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------|---------------------------|--|
| Office Action Summary | Application No. 10/827,149 | Applicant(s) SU ET AL. | |
| | Examiner Lois Zheng | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-19 and 43-72 is/are pending in the application.
- 4a) Of the above claim(s) 55-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-19 and 43-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>7/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of invention Group I, claims 13-19 and 43-54, in the reply filed on 2 August 2007 is acknowledged. The traversal is on the ground(s) that each proposed group is classified in identical classes and sub-classes and there is no serious burden in examining all groups. This is not found persuasive because each group is directed to a different passivation solution with different coating components and a different pH range. Therefore, although the classification for each proposed group might be the same, the search direction for each group is very different.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 55-72 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention Groups II-IV, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2 August 2007.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Merchant et al. US 6,221,176 B1(Merchant).

Merchant teaches a metal surface treatment solution comprising oxidizers such as sodium nitrate and pH buffer agents such as sodium hydroxide (col. 6 line 30 - col. 7 line 18).

Regarding claims 13-14, the treatment solution of Merchant contains the same pH buffering solution and the sodium nitrate as claimed. Therefore, the treatment solution of Merchant anticipates instant claims 13-14. In addition, the preamble "for forming an amorphous oxide layer over an implantable device" merely states the intended use for the claimed passivation solution, therefore, does not lend patentable weight to the instantly claimed passivation solution. Furthermore, since the treatment solution of Merchant contains the same components, one of ordinary skill in the art would also find it capable of forming an amorphous oxide layer over an implantable device as claimed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13-17 and 43-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al. US 5,938,976(Heimann).

Heimann teaches a metal surface treatment solution to form a corrosion resistant coating containing an amorphous phase(abstact), wherein the treatment solution comprises precursors such as compounds having cations of Group I metals anions such

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as nitrate and carbonates(col. 3 lines 7-15). Heimann's treatment solution further comprises pH buffers such as sodium hydroxide and sodium hydrogen carbonate(i.e. sodium bicarbonate)(col. 4 lines 32-46, Tables A-B).

Regarding claims 13-14, even though Heimann does not explicitly teach the claimed sodium nitrate in the coating solution, one of ordinary skill in the art would have found the addition of the claimed sodium nitrate in the coating solution of Heimann obvious and with expected success since Heimann teaches that suitable cations for the its precursor are Group I metals, which include sodium, and anions such as nitrate. Therefore, the precursors in the coating solution of Heimann encompass the claimed sodium nitrate. In addition, the preamble "for forming an amorphous oxide layer over an implantable device" merely states the intended use for the claimed passivation solution, therefore, does not lend patentable weight to the instantly claimed passivation solution.

Regarding claim 48, Heimann further teaches that sodium carbonate can also be used in the treatment solution(col. 7 lines 60-63, example 8) and the pH of the passivation solution is 8-12 for ion based alloys(col. 7 lines 51-54). Therefore, the pH of the treatment solution as taught by Heimann overlaps the claimed pH as recited in claim 48. A prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed pH range from the disclosed range of Heimann would have been obvious to one skilled in the art since Heimann teaches the same utilities in its' disclosed pH range.

Regarding claim 49, the recited limitation is directed to how the claimed passivation solution is being used and does not impart any specific compositional, structural or material limitation to the instantly claimed passivation solution. Therefore,

the process limitation as recited in claim 49 does not render the instant claim patentable.

Regarding claims 15-17, 43-47 and 50-54, Heimann further teaches that the precursor(i.e. sodium nitrate and sodium carbonate) is present in an amount of about 1 to about 60wt% and the pH buffer additives(i.e. sodium bicarbonate and sodium hydroxide) is present in an amount of about 1 to about 60wt%(col. 4 lines 25-41). Therefore, the amount of sodium nitrate, sodium carbonate, sodium bicarbonate and sodium hydroxide as taught by Heimann overlap the claimed sodium nitrate, sodium carbonate, sodium bicarbonate and sodium hydroxide concentrations. In addition, the ratio calculated from the concentrations of sodium bicarbonate, sodium carbonate and sodium hydroxide in the treatment solution of Heimann would have overlapped the claimed ratio of sodium bicarbonate, sodium carbonate and sodium hydroxide. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed individual component concentration ranges and the ratio range from the disclosed ranges of Heimann would have been obvious to one skilled in the art since Heimann teaches the same utilities in its disclosed sodium nitrate, sodium carbonate, sodium bicarbonate and sodium hydroxide concentration ranges.

7. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann and further in view of Sako et al. US 2003/0213533 A1(Sako).

The teachings of Heimann are discussed in paragraph 6 above. However, Heimann does not teach the presence of nitric acid and hydrochloric acid in the treatment solution.

Sako also teaches a metal treatment composition for corrosion inhibition (abstract). Sako further teaches that nitric acid, hydrochloric acid and sodium hydroxide can be added to the treatment solution for the purpose of adjusting pH(paragraph [0059]).

Regarding claims 18-19, one of ordinary skill in the art would have found it obvious to use a combination of nitric acid, hydrochloric acid and sodium hydroxide as taught by Sako in the coating solution of Heimann with expected success since Sako teaches tht nitric acid, hydrochloric acid and sodium hydroxide are all used in a coating solution for the purpose of pH control. See MPEP 2144.06.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ


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